7. CONCLUSION

The active component in the leaves of begunia, *Vitex negundo* Linn., which are known as paddy grain protectant against storage insects, has been isolated and identified for the first time. The active component is identified as a white, odourless, amorphous, non-hygroscopic, water insoluble and benzene, hexane and chloroform soluble, open chain ketonic compound with 534 (m/e) molecular weight and $C_{37}H_{74}O$ molecular formula.

The active component acts possibly as a gustatory repellent and successfully inhibits the egg laying of the test species above 200 ppm concentration in hexane in case of *S. cerealella*, above 300 ppm in case of *R. dominica* and above 400 ppm in case of *S. oryzae*. However, it does not directly affect the hatching of eggs, pupation, adults emergence and longevity of adults of the test species.

The active component, when evaluated under natural storage conditions for 270 days in bags as well as in tin structures, did not completely check grain damage from insects as in case of laboratory tests but nearly 50% grain protection at 400 ppm concentration for 225 days was achieved. The above component did not show any adverse effect on grain viability and cooking
quality of the grains. It was also non-toxic to the mice.

Based on the results of the present investigations it is concluded that the active component if explored for its commercial availability, could be of use for insect pest management of stored rice.